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EXAMINER

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Paper No. 30

Application Number: 09/328,749  
Filing Date: June 9, 1999  
Appellant(s): GEBHARD

**MAILED**  
**AUG 19 2003**  
**GROUP 3700**

Brian M. Gaff  
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed July 28, 2003.

(1) *Real Party in Interest*

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A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

Appellant's brief includes a statement that claims 1-4, 7-21 and 23-26 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

**(8) *Claims Appealed***

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The copy of the appealed claims contained in the Appendix to the brief is correct.

*(9) Prior Art of Record*

4,922,631	Anderie	05-1990
3,903,621	Dubner	09-1975
5,915,820	Kraeuter et al.	06-1999
5,446,977	Nagano et al.	09-1995
4,815,222	Eisenbach et al.	03-1989

*(10) Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

*Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 5-6, 8-11, 15-17, 19-21, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderie 4,922,631 in view of Dubner 3,903,621 and Kraeuter et al.

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5,915,820. Anderie '631 discloses substantially all the limitations of the claims including the following: a torsion system (9 in figure 1, or 116, 118, 119 shown in Figure 8 or that shown in Figure 4); a forefoot portion (119 or that where 111 is located in Figure 4); rear foot portion (118 or that where 112 is located in Figure 4); intermediate portion (116 of Figure 8 or 110, 114, 115 of Figure 4); intermediate portion coupling together forefoot and rear foot portions (see Figures) and made of a material that allows rotation of the forefoot portion relative to the rear foot portion about the longitudinal line of the torsion system (see Abstract or column 4, lines 29-50); intermediate portion includes a rib (see Figure 6, ribs are 114, 115, and 116 while base is 113); rib tuned torsionability (see column 5, lines 62-66); at least one aperture 120 in rear foot portion; rear foot, forefoot and intermediate portions form a single plate (see Figures); the plate is substantially rigid in a horizontal plane (see column 4, lines 39-51); plate is between 1 and 15 mm thick (see column 4, lines 10-15); the width of the intermediate portion is less than that of the rear foot and forefoot portions (see Figures); plate comprises nylon (see column 4, line 7); plate comprises composite material (see Column 4, lines 55-59) including glass; front and rear foot portions comprise different material properties than

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intermediate portion (see column 4, lines 3-15 and 55-63); aperture formed in intermediate portion (that area between 115 and 166 or 116 and 114 in figure 6); outsole 2. Anderie '631 does not teach or show that the forefoot portion of the torsion system spans the entire forefoot area of the sole or that the rear foot portion spans the entire rear foot area of the sole or that the forefoot area has a generally smooth concave contour along the longitudinal axis. Dubner '621 shows that a supportive innersole device can span substantially the entire forefoot area from the midtarsal area to the toe area and from the lateral side to the medial side to give support to the largest area of the sole of the user's foot. Dubner '621 also teaches that the same supportive device can span substantially the entire rear foot area including the area from the midtarsal area to the heel and from the lateral side to the medial side (see Figures 1-3) for the same reason. Therefore, it would have been obvious, to one of ordinary skill in the art at the time the invention was made, to make the forefoot and heel areas of Anderie '631 span the entire forefoot and heel areas as shown in Dubner '621 to give support to the largest area of the user's foot and to spread out the impact of the foot with the ground over the largest area possible. Kraeuter et al. '820 shows, in Figures 7 and 8, that the forefoot area of a foot support device

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can be concave upward in the forefoot area to follow the natural curvature of the forefoot area of a user's foot and make the fit feel more comfortable doing so. Therefore, it would have been obvious to make the forefoot area of the references as modified and applied immediately above, concave, as shown in Kraeuter et al. '820, to allow it to follow along the natural contour of the user's foot while giving a feeling of comfort on the user's foot.

3. Claims 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 21 in paragraph 2 above in view of Nagano et al. 5,446,977. The references as applied to claim 21 in paragraph 2 above disclose all the limitations of the claims except for the footwear being a cycle shoe and having a cleat attachment. Nagano et al. teaches that it is desirable to have a torsion system placed within a cycle shoe, with a cleat attachment (8, 9a, 9), to keep the foot located properly on the pedal of a bicycle to allow for the largest driving force possible to be transferred from the user's leg to the pedal. Therefore, it would have been obvious to place the torsion system of the references as applied to claim 21 in paragraph 2 above into a bicycle shoe, such as that shown in Nagano et al. '977, to aid in keeping the foot properly located on the pedal to get the most work out of the energy

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expelled by the rider and to help in correcting the twisting of the user's leg due to the pedaling of the bicycle. Nagano et al. '977 also shows the shoe containing an upper as seen in Figures 8-9.

4. Claims 2-4 and 11-14, and 18 are rejected under 35 U.S.C. 103(a) as being obvious over the references as applied to claims 1 and 9 in paragraph 2 above. The references as applied to claims 1 and 9 in paragraph 2 above disclose all the limitations of the claims except for the specific degree of rotation of the forefoot portion to the rear foot portion, the thickness of the intermediate portion or the intermediate portion being made of graphite. It appears that it would have been a mere matter of testing and optimization to find the degree of rotation of the forefoot portion with respect to the rear foot portion that would best aid the foot to rotate the desired amount to counter the rotation of the foot due to knee movement. It also appears that it would have been a mere matter of testing and optimization to find the thickness and material makeup (as the material make up of the intermediate also is a factor in determining the necessary thickness needed) of the intermediate portion that would allow the desired rotation and to customized the torsion system to different people's feet. Therefore, it would have been obvious to one of ordinary skill



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in the art at the time of the invention was made to find the proper angle of rotation of the forefoot portion to the rear foot portion and the thickness and material of the intermediate portion that would best compensate for the twisting motion performed by the knee on the foot.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 1 above in view of Eisenbach et al. 4,815,222. The references as applied to claim 1 in paragraph 2 above disclose all the limitations of the claim except for the intermediate portion defining at least one circumscribed aperture. Eisenbach et al. '222 teaches that the intermediate portion of a sole of a bicycle shoe can have a circumscribed aperture (24 in Figure 5A) located therein to allow for adjustably mounting a cleat into any one of a number of positions on the shoe (see col. 4, lines 20-23). Therefore, it would have been obvious, to one of ordinary skill in the art at the time the invention was made, to place such an aperture in the sole of the references as applied to claim 1 in paragraph 2 above to allow for a traction cleat to be mounted on the shoe if desired.

*(11) Response to Argument*

For ease of understanding of which response corresponds to what argument, the examiner's responses to appellant's arguments will

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be lettered and numbered to correspond to that which is used in appellant's arguments.

I.

B. 1. Response to Appellant's interpretation of U.S. Patent No. 4,922,632 to Anderie (issued May 8, 1990)

Appellant argues that, as seen in Figure 6 of Anderie, the elongate bar 110 is the rectangular outline as shown in the Figure provided on page 10 of the brief next to the argument. Appellant further argues that the arrows in the Figure provided by the appellant denote the outline of the stiffening element. This argument appears to be untrue. The cross-section shown in Figure 6 is that taken from Figure 8 of Anderie. This cross-section denotes the stiffening element 109 including the bar 110 which includes the horizontally extending flat portion 113 and the extensions 114, 115, 116. As noted in the text of Anderie at col. 5, lines 9-39, the stiffening element includes the bar and extensions and nothing further. Therefore, the outside rectangular portion shown in the appellants Figure 6 denoted by the arrows would be that portion of 119 shown in cross-section as seen when viewed taken in cross-section as noted in Figure 8 of Anderie. Therefore, the limb portions 114, 115 and 116 extend beyond the flat portion 113 as shown in Figure 6 of Anderie.

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B. 4. Response to Appellant's Arguments of the combination of references applied to claim 1.

Appellant argues that Dubner teaches away from Anderie and Kraeuter et al. because it is directed to a structure that maintains the wearer's foot in a selected position. This argument is not clearly understood. Dubner was used to teach that a supportive inner sole can span substantially the entire forefoot area of a sole from the midtarsal area to the toe area (as seen in Figure 1) and from the lateral side to the medial side of the shoe to support the entire user's foot. Clearly, the torsional systems of Anderie and Kraeuter et al. would benefit from the distribution of the user's weight throughout the entire foot surface. Also, it appears appellant is arguing more than that which is claimed. Appellant argues that the forefoot portion of Dubner does not enter into the toe area of the foot and therefore does not span the entire forefoot area of the user's foot. This argument is not clearly understood. The claim requires the following "the torsion system spanning substantially the entire forefoot area of the sole from a midtarsal area to a toe area..." (emphasis added). There is no requirement in the claim that the torsional system span into the toe area, but only to the toe area. Therefore, since Dubner

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teaches the claimed area, expanding the forefoot area of Anderie as taught by Dubner would meet the limitation of the claim.

Therefore, with respect to the combination of Dubner with Anderie, this combination appears proper for the above stated reasons.

With respect to appellant's arguments directed to Krauter et al., and Anderie, both references teach the use of a system to allow for twisting of the support. Although one allows bending while the other "restricts" bending (i.e. some bending can still occur, only limited), what the Krauter et al. reference teaches and is applied to Anderie is irrespective of the flexing and directed to the idea of allowing twisting.

With respect to appellant's arguments that the instant ground of rejection makes no reference to a cycling shoe, this argument is not clearly understood. The claim states "for a cycling shoe" which is clearly only stating the intended use of the shoe and therefore does not further structurally define the shoe over any other shoe that may be used to pedal a bicycle.

B. 5. Response to arguments directed to the rejection of Claim 8.

Appellant argues that Anderie does not disclose at least one aperture as claimed in claim 8 of the instant application.

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This argument is not clearly understood. Claim 8 only requires that there be "at least one aperture" in the rearfoot portion of the torsion system. As clearly shown in Anderie, that portion shown in Figure 6 in the areas between 115, 114 and 116 are apertures formed in the rearfoot portion of the torsion system. Appellant argues that the instant application's aperture is centrally located, but this limitation is nowhere to be found in claim 8.

B. 6. Response to the arguments directed to the rejection of Claim 9.

Appellant argues that the stiffening elements 9, 109 of Anderie include at least three components and therefore does not disclose the claimed "forefoot portion, the rearfoot portion and the intermediate portion form a single plate." limitation. Since all the portions of the stiffening elements used in the rejection of claim 9 would be fastened together to fully function as a single unit, they would meet this limitation in the claim as they would be able to perform the same function as a unit made of a single, unitary piece.

B. 7. Response to arguments directed to the rejection of claim 10.

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Appellant argues that the stiffening elements of Anderie are not substantially rigid in a horizontal plane and cite col. 2, lines 10-16 and 26-32 for support. In col. 5, lines 9-39 of Anderie, the stiffening element is described as "an elongate bar 110 which in practice is for example about 9 cm in length. The two ends 111 and 112 of the bar 110 are terminated by enlarged portions of a circular configuration. The bar 110 is entirely straight and ... the bar comprises a horizontally extending flat portion 113 and vertical limb portions 114 and 115 which are joined to the mutually oppositely disposed longitudinal edges of the flat portion in such a way that the limb portions 114 and 115 project beyond the top side and the underside of the flat strip portion 113 of the bar 110." This extension of the limb portions 114 and 115 (as shown in Figure 6) would give support to the flat portion and aid in preventing bending of the plate portion 113 in a horizontal plane.

B. 8. Response to arguments directed to the rejection of claim 11.

Appellant argues that the plate of Anderie is not between 1-15 mm thick. This argument is not clearly understood. As noted in col. 5, line 43, "the height in the practical

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embodiment illustrated being about 8 mm" would meet the 1-15 mm as claimed.

B. 9. Response to arguments directed to the rejection of claim 15.

Appellant argues that the width of the plate of Anderie in an intermediate portion is not narrower than the forefoot or rearfoot portion. This argument is not clearly understood. As can be seen in the cross-section view shown in Figure 6, the intermediate portion of the torsion system of Anderie is shown to be narrower than the end plates 118 and 119, thereby meeting this limitation in the claim.

B. 10. Response to the arguments directed to the rejection of claims 16, 17 and 19.

Appellant argues that the references applied do not teach the claimed materials. This argument is not clearly understood. Appellant states that Anderie discloses plastic wires 91 that may be constructed of nylon (see col. 4, line 7). This material is that which is claimed in claim 16 and therefore is taught by Anderie under appellant own admission. Appellant also admits that Anderie discloses that the stiffening element 109 may be a

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composite body including glass, thereby meeting the limitation of claims 17 and 19 (also see col. 4, lines 55-59).

B. 11. Response to argument directed to the rejection of claim 20.

Appellant argues that the forefoot, rearfoot and intermediate portions of Anderie do not comprise material of different properties. This argument is not clearly understood. In col. 8, lines 45-49, it clearly states that "As stated above, said plane P-P can be substantially coplanar with the upper surface of the plate-shaped anchoring inserts 118, 119 and thus these inserts will be made of the harder plastics material for stabilizing purposes." This means that the end plate 118 and 119, as shown in Figure 8 of Anderie, will be made of harder plastics material than the stiffening element 109, thereby meeting the limitations of claim 20 since the plastics of 118 and 119 are harder than that of 109 as noted.

B. 12. Response to the arguments directed to the rejections of claim 21.

Appellant argues that none of the references are directed to a cycling shoe as claimed as well as arguments similar to those directed to claim 1 previously addressed. See B. 4. above



for response to these arguments. With respect to the "cycling shoe", since any shoe can be used to pedal a bicycle and appellant has failed to distinguish the shoe in the instant application from that of any other shoe that can be used to pedal a bicycle, the shoes in the references used would meet the limitation of a cycling shoe as they can be used to pedal a bicycle.

B. 13. Response to the arguments directed to the rejections of claim 24.

Appellant argues that Anderie does not disclose an outsole as that claimed. This argument is unclear. Appellant states that "Anderie discloses an outsole that includes recesses 6, 7, to decouple the front sole region 3 from the rear sole portion 4." Clearly, by applicant's own admission, Anderie includes an outsole.

B. 14. Response to the arguments directed to the rejections of claim 26.

See response to claim 1 in paragraph B. 4. above.

II.

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A. 2. Response to the arguments directed to the rejection of claims 23 and 25.

Appellant argues that Anderie does not teach applicant's claimed upper. Nagano et al. is used to teach an upper attached to a shoe sole (well-known in the art, but taught by Nagano et al nonetheless). Since Anderie is directed to a sole for a sports shoe and Nagano et al. is a sports shoe containing a sole, the combination of the upper of Nagano et al. with the sole of Anderie is proper for being able to use the sole of Anderie. Appellant argues that including the cleat of Nagano et al. in Kraeuter et al. would render the Kraeuter et al. nonfunctional. This argument is unclear. The combination used in the rejection was not to use the cleat of Nagano et al. in Kraeuter et al. and it appears applicant is arguing more than that which is claimed. Kraeuter et al. was used to teach the concavity of the front portion of the sole not flexibility with respect to the entire sole as noted by appellant.

III.

A. 1. Response to arguments directed to the rejection of claims 2-4.

Appellant argues that the rotational range is not disclosed in the references and that none of the references disclose

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rotational angle as a function of torsional load. This argument is not clearly understood. The amount that one part of a plate twists with respect to the other part of a plate is due to the amount of load placed on the plate and the point at which the load is placed on the plate. Therefore, it is well known that the twisting of a plate is due to the torsional load placed on a plate. The twisting of the plate would then define an angle of twist that would further be defined due to the load placed on the plate. This angle of twist would vary with respect to different loads and therefore can be found by testing different loads on the plate. Anderie discloses that the embodiment of Figures 1-3 includes a stiffening element that has a torsional stiffness that is very low over, even over major angles of twisting movement and that the stiffening element 109 opposes a considerable resistance to further twisting as from an angle of twisting about 60 degrees and thereby contributes to stabilizing and supporting the foot. Therefore, Anderie teaches that the stabilizing and support of the foot is dependent upon the opposition to twisting, i.e. the twisting angle. Therefore, from this one can find which twisting angle of the forefoot portion with respect to the rearfoot portion would best aid the foot to rotate the desired amount to counteract the rotation of the user's foot due to knee movement.

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A. 2. Response to arguments directed to the rejection of claims 11-14.

Appellant argues that the thickness of the plate claimed in these claims is not met by the prior art. This argument is not clearly understood. Anderie clearly discloses in col. 5, lines 40-45 that the plate is about 8 mm high, thereby meeting the thickness limitation of the claims since 8 mm is included in each claim. Also, it is clearly shown in Figures 1 and 8 of Anderie that the plate in the intermediate portion is thinner than the forefoot or rearfoot portions.

A. 3. Response to the argument directed to the rejection of claim 18.

Appellant argues that none of the references teaches the use of graphite for the material makeup of the torsion system. It would be with the skill of one of ordinary skill in the art to find a material that would perform the desired rotation due to torsion and that would best compensate for the twisting motion performed by the knee on the foot during the gait cycle.

IV.

A. 2. Response to arguments directed to the rejection of claim 7.

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Appellant argues that none of the reference applied disclose the intermediate portion defining at least one circumscribed aperture as claimed. This argument is not clearly understood. Eisenbach clearly teaches that the intermediate portion of a cycling shoe outsole plate 12 can have a circumscribed aperture 24 located in the intermediate portion thereof to allow for a cleat to be adjustably mounted in any number of positions on the cleated cycling shoe (see col. 4, lines 20-23).

V. With respect to the other references cited by the examiner, since these references are not used in the rejections of record against the appealed claims, no discussion of these references is deemed necessary.

For the above reasons, it is believed that the rejections should be sustained.

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Respectfully submitted,

  
Anthony D Stashick

Primary Examiner

Art Unit 3728

ADS

August 18, 2003

Conferees



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